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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,222	07/25/2003	Michael J. Putnam	PGI6044P0052US	2436

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WOOD, PHILLIPS, KATZ, CLARK & MORTIMER
500 W. MADISON STREET
SUITE 3800
CHICAGO, IL 60661

EXAMINER

YAO, SAMCHUAN CUA

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 09/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/627,222

Applicant(s)

PUTNAM ET AL.

Examiner

Sam Chuan C. Yao

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-9 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) 11-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al (US 5,414,914) in view of Haid et al (US 5,240,764), Knoke et al (US 5,552,206), and James et al (US 5,822,833) for reasons of record set forth in a prior office action dated 05-03-05, and further in view of Seuhr et al (US 5,670,234) for reasons of record set forth in a prior office actions dated 11-08-05 and 03-08-06.

3. Claims 1-4 and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over James et al (US 5,822,833) in view of Suzuki et al (US 5,414,914), Haid et al (US 5,240,764), Knoke et al (US 5,552,206), and Seuhr et al (US 5,670,234).

James et al discloses a process of manufacturing a resin-binder free hydroentangled fibrous web. The process comprises providing a fiber web including staple fibers such as rayon fibers, polyester fibers, etc. or a blend thereof; hydroentangling the fiber web using a 3-D rotary image transfer device to impart 3-D image to the hydroentangled fiber web (col. 5 line 13 to col. 6 line 9; col. 9 line 21 to col. 12 line 28; figures 1A-1C; 9-13).

James et al does not teach subjecting a fiber web to an initial hydroentangling operation to consolidate the web before it is hydroentangled to a 3-D rotary

image transfer device. However, it would have been obvious in the art to subject a fiber web to an initial hydroentangling operation to consolidate the web before it is hydroentangled to a 3-D rotary image transfer device, because Suzuki et al teaches hydroentangling a fiber web before it is subjected to a principal hydroentangling operation, where the web on a rotary support member is exposed to pressurized streams of water (col. 4 line 44 to col. 5 line 40; figure 9) in order to simplify the handling and transportation of the web.

James et al does not teach using a blend of thermo-fusible and base fibers in forming a fibrous web and heat-activating the heat-fusible fibers in a hydroentangled web. However, it would have been obvious in the art to form a fibrous web comprising a blend of thermo-fusible and base fibers and heat-activate a hydroentangled web in a modified process of James et al, because: a) Haid et al, drawn to a spunlaced nonwoven web, discloses hydroentangling a web comprising base fibers and thermo-fusible binder fibers and then *“remelting the fusible fibers (i.e., heat setting) ...”* to *“improve durability and abrasion resistance”* (abstract; col. 2 lines 26-31); and, b) Knoke et al teaches *“[a] special softness is attained when the non-woven fabric is bonded using water jets. ... for obtaining an especially high internal strength, thermoplastic binding fibers can be included as well”* (col. 2 lines 47-50 and claims 15-16).

As for the jet-dyeing limitation, such would have been obvious in the art as such is an art recognized standard and effective way for providing a desired finishing color to a fabric as exemplified in the teachings of Seuhr et al (col. 4 lines 22-65;

figures 3-4). Seuhr et al teaches that a jet dyeing process *"is a standard dyeing process used on many apparel and home finishing fabrics to soften the fabric and provide uniform color distribution. Such finishing processes are standard in the textile industry ..."* (col. 4 lines 28-36).

With respect to claims 2-4 and 6-9, these claims would have been obvious in the art for essentially the same line of reasoning set forth in a prior office action which was applied in numbered paragraph 2 above.

Response to Arguments

4. Applicant's arguments filed on 08-11-06 have been fully considered but they are not persuasive.

On page 5 full paragraph 5, Counsel argued that "[t]he Suzuki et al reference is unrelated to the present invention because it teaches a process for *aperturing of fabric*. Suzuki does not appear to require a fibrous matrix having fusible fiber, nor does Suzuki et al appear to contemplate or require a jet dyeing step.". Examiner strongly disagrees with Counsel's assertion that the Suzuki et al patent is unrelated to the present invention. It is respectfully submitted that, just like the claimed invention, the Suzuki et al patent is directed to a process for hydroentangling a fibrous web. It is true that in the process of hydroentangling a fiber web in the Suzuki et al process, it creates perforations to the web. However, the presently claimed subject matter does not preclude the creation of web perforations during a hydroentangling operation. Equally important, it is reasonably expected that perforations (however small in dimension) may also be

formed to a web in the claimed hydroentangling operation. As for Counsel's argument that, Suzuki et al does not teach using a fibrous matrix comprising fusible fibers, and does not apply a jet dyeing operation, those are precisely the reason why the claims are not rejected under 35 USC 102, but instead were rejected under 35 USC 103. The main issue here however is: whether or not, it would have been obvious in the art to incorporate fusible fibers in a fibrous matrix of Suzuki et al and to apply a jet-dyeing operation to a modified process of Suzuki et al. For reasons of record, these two claimed subject matters would have been obvious in the art wanting to practice the process of Suzuki et al. On page 6 full paragraph 1, Counsel argued that Haid et al discloses heat setting a fiber web before performing a hydroentangling step. Examiner agrees. However, one in the art would have readily understood that the heat setting operation of Haid et al is not necessary since Suzuki et al (i.e. the primary reference) teaches hydroentangling a fiber web before it is subjected to a principal hydroentangling operation, where the web on a rotary support member is exposed to pressurized streams of water (col. 4 line 44 to col. 5 line 40; figure 9) in order to simplify the handling and transportation of the web. That's precisely the main purpose of a heat-setting operation suggested by Haid et al. Hence would be redundant since a web is already been a hydroentangling operation to improve the handling and transportation of the web. More important, Haid et al, drawn to a spunlaced nonwoven web, also discloses hydroentangling a web comprising base fibers and thermo-fusible binder fibers and then "*remelting the*

fusible fibers (i.e., heat setting) ...” to “improve durability and abrasion resistance” (abstract; col. 2 lines 26-31).

As for Counsel's argument on page 6 full paragraphs 2-4 regarding the Knoke et al, James et al and Suehr et al references, it is quite apparent that, Counsel is resorting to a classic piecemeal analysis of the applied references. What is critical on the issue of patentability under 35 U.S.C. 103(a) is “what would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the sum of all the relevant teachings in the art, not in view of the first one and then another of the isolated teachings in the art.” In re Kuderna, 165 USPQ 575 (CCPA 1970). In the present case, in light of collective teachings of secondary references, it would have been obvious in the art to modify the process of Suzuki et al such that, fusible binder fibers are incorporated into a fibrous matrix, heat-activate the fusible fibers after a web has been hydroentangled to enhance the durability and abrasion resistance of a finished hydroentangled web, and to jet dye the heat-activated web to provide a desired finishing color to the web.

It should be noted that, all pending claims have alternatively been rejected under 35 USC 103 as being obvious over James et al (US 5,822,833) in view of Suzuki et al (US 5,414,914), Haid et al (US 5,240,764), Knoke et al (US 5,552,206), and Seuhr et al (US 5,670,234). Counsel appears to have failed to address this alternative rejection.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Richard Crispino can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Sam Chuan C. Yao
Primary Examiner
Art Unit 1733

Scy
09-06-06